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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/685,261	10/14/2003	Frank D. Egitto	END92000181US2	4016

23122 7590 01/25/2005

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EXAMINER	
TRAN, THAO T	
ART UNIT	**PAPER NUMBER**
1711	

DATE MAILED: 01/25/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/685,261	EGITTO ET AL.	
	Examiner	Art Unit	
	Thao T. Tran	1711	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *22 October 2004*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *17-24 and 36-39* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *17-24 and 36-39* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. This is in response to the Amendments filed on October 22, 2004.

2. Claims 17-24 and 36-39 are currently pending in this application. Claims 25-35 have been canceled. Claims 36-39 have been newly added.

Claim Rejections - 35 USC § 102

3. In view of the prior Office action of July 22, 2004, the rejection of claims 17-24, under 35 U.S.C. 102(e) as being anticipated by Berger et al. (US Pat. 6,528,145), has been withdrawn due to the Amendments made thereto.

4. Claims 36-39 are rejected under 35 U.S.C. 102(e) as being anticipated by Berger et al. (US Pat. 6,528,145)

Berger teaches a composite structure, comprising in order: a substrate 20; a sealing layer 32; a ceramic-filled polymeric layer or a polymer-filled ceramic layer 98; and surface layer 102. The sealing layer and surface layer can be made of polyimides or epoxy resins; and the ceramic filler can be SiO_2 (see Figs. 11-12; col. 6, ln. 48-49; col. 7, ln. 13-14; col. 9, ln. 33-43; col. 11, ln. 63 bridging col. 12, ln. 4, col. 13, ln. 66-67). Berger teaches the composite structure further comprising an adhesive layer interposed between composite layers (see col. 9, ln. 65-67), the substrate being an integrated circuit board, and the composite structure is attached to a chip carrier (see col. 1, ln. 28-36).

Berger further teaches the surface layer containing ceramic (see col. 9, ln. 25-27), wherein the ceramic material can be silica in particle form (see col. 6, ln. 47-54), which are the same particles as disclosed in the instant specification. Hence, the silica particles used in Berger would inherently have the same thermally and electrically insulating properties.

5. Claims 17-24 and 35-39 are rejected under 35 U.S.C. 102(e) as being anticipated by Vargo et al. (US Pat. 6,232,386).

Vargo teaches a composite structure, comprising a polymer layer 46 coated with a metal oxide layer 47, which in turn is bonded to another polymeric layer 48 (see Fig. 3; col. 35, ln. 57-63; col. 36, ln. 1-17). Vargo further teaches the polymers in layer 46 and layer 48 to be polyimides, polysiloxanes, polyalkylenes, or polyurethanes (see col. 7, ln. 53-65; col. 35, ln. 57-63) and the metal oxide layer to be a network of silicon oxide or a pure metal oxide layer (see col. 5, ln. 52-58; col. 14, ln. 16-30); and that the surface of a polymer layer is treated with an organosilane coupling (adhesive layer) (see col. 28, ln. 32-48). Vargo further teaches the composite to be used to make electrical substrate materials for forming integrated circuit chip carriers (see col. 36, ln. 44-47; col. 36, ln. 66 bridging col. 37, ln. 6).

Since Vargo teaches the metal oxide layer to be a network of silicon oxide, the layer would be consisting essentially of silicon oxide. And the metal oxide is in particulate form (see col. 2, ln. 7-9).

Response to Arguments

6. Applicant's arguments filed October 22, 2004 have been fully considered but they are not persuasive.

With respect to the newly added claims 36-39, Applicants argue that Berger teaches the surface layer with no ceramic filler, thus the reference does not disclose the added layer with additional thermally and electrically conductive insulating particles. However, Berger discloses that it is only where the surface layer is to be used for high density optical waveguides and channels that no ceramic filler would be present. Other than these areas, Berger does teach the surface layer containing ceramic (see col. 9, ln. 25-27), wherein the ceramic material can be silica in particle form (see col. 6, ln. 47-54), which is the same particles as disclosed in the instant specification. Thus, Berger does teach the presently claimed invention.

With respect to Applicants' arguments that Vargo does not teach the use of silicon dioxide as a metal oxide in the conductive or semiconductive layer 47, it is hereby noted that Vargo does teach the metal oxide layer as a network of silicon oxide or silica (see col. 14, ln. 13-30). Thus, Vargo does teach the presently claimed invention.

Conclusion

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO

MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thao T. Tran whose telephone number is 571-272-1080. The examiner can normally be reached on Monday-Friday, from 8:30 a.m. - 5:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Seidleck can be reached on 571-272-1078. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

tt
January 21, 2005

Thao Tran
THAO T. TRAN
PATENT EXAMINER